

## SHORTER NOTES

**New Records Of Ferns From Chiapas, Mexico.**—As part of an Inventory of Pteridophytes of the Biosphere Reserves of “El Triunfo” and “La Sepultura” in the Sierra Madre and of the deciduous tropical forest in the Jiquipilas Valley in the Central Depression of Chiapas, Mexico, as well as explorations in other areas of this state between 1998 and 2003, five fern species previously were reported for Chiapas: *Hemionitis levyi* and *Doryopteris concolor* var. *concolor* (Amer. Fern. J. 90:104–111. 2000); *Thelypteris rachiflexuosa* (Sida 20:1309–1313. 2003), *Elaphoglossum ipshookense* and *Anemia guatemalensis* (Amer. Fern J. 93:152–163. 2003). These were determined as new records for the state by comparison to those taxa reported from Chiapas by Mickel and Smith (Mem. New York Bot. Gard. 88:1–1054. 2004). Subsequent explorations of other physiographic regions of Chiapas have resulted in the discovery of the following five additional new records for Chiapas.

These new records are confined to physiographic regions of Chiapas such as the Central Depression, Northern Highlands, and Sierra Madre of Chiapas. The Central Depression is important as a biological corridor to all dry forest in southern Mexico and to the Yucatan Peninsula, according to Rzedowski and Calderon de Rzedowski (Florist. Invent. Trop. Country. New York Bot. Garden: 273.1989), and the Northern Highlands region is important because it is considered part of the Mesoamerican biological corridor (CI & CAP. Northern Region Mesoamer. Biodiver. Hotspot. 2004)

The Central Depression is a great valley located between the Sierra Madre and the Northern Highlands of Chiapas (Müllerried, La Geografia de Chiapas. 1957). This valley is dominated by deciduous tropical forest, and few botanical studies have been conducted in this area (La Veg. Chis. Vol. 1. 7. 1952). It has been considered an important zone for endemic taxa (Reyes, List. Florist. Mex. XVII. Dep. Central Chis. 1997). The Northern Highlands is a mountainous region located between the Central Depression and Gulf Coastal Plain of Chiapas, and is dominated mainly by tropical rain forest and *Quercus* forest. This area is poorly known botanically. The Sierra Madre is located between the Pacific Coastal Plain and the Central Depression (La Geog. Chis. 1957), and is dominated by montane cloud forest. Several floristic studies have shown this area to be rich in vascular plant diversity (Long and Heath, Ann. Inst. Biol. Ser. Bot. 6. 1990; Matuda, Amer. Mid. Nat. 43:195–223. 1950). Unfortunately, all of these areas are becoming heavily deforested and altered due mainly to anthropogenic activities such as cattle ranching, and coffee and maize plantations.

### New Records

*Adiantopsis seemannii* (Hook.) Maxon—Mexico, Chiapas, Mpio. Tonalá, 8 Km N of Ejido Raymundo Flores in the Biosphere Reserve La Sepultura,

16°02'20" N, 93°35'30" W, 900 m, deciduous tropical forest, 5 Sep 1995, *Pérez-Farrera* 741 (HEM). This differs from *Adiantopsis radiata* (L.) Fée, a very common species in deciduous tropical forest, in its ovate, pinnate blades. *Adiantopsis seemannii* is a very rare species at this locality, and grows with *A. radiata* on rock in open-canopy forest. *Adiantopsis seemannii* ranges along the Pacific coast of Mexico between 100–1400 m (Mickel and Smith, 2004). It also has been reported in Guatemala and Belize.

***Doryopteris palmata*** (Willd.) J. Sm.—Mexico, Chiapas, Mpio. Villaflores, between El Ejido Tres Picos and Nueva Independencia, in the Biosphere Reserve La Sepultura, 16°10' N, 93°35' W, 1700 m, montane forest, 8 Aug 1995; Mpio. Villaflores, between El Ejido Tres Picos and Nueva Independencia, in Biosphere Reserve La Sepultura, (16°10' N, 93°35' W), 1700 m montane forest, 10 Aug 1995, *Pérez-Farrera* 672 (CHIP, UAMIZ); *Pérez-Farrera* 2983 (HEM); Mpio. La Concordia, Finca Cuxtepex, 50 Km S of Nueva Independencia, in Biosphere Reserve El Triunfo, 15°43'49" N, 92°57'57" W, 1000 m montane forest, 14 Jun 2006, *Mendez-Guzman* 66 (HEM). This species differs from *D. concolor* (Langsd. et Fisch.) Kuhn var. *concolor* in its areolate venation and finely puberulous stipe grooves. Smith (Fl. Chiapas 2:1–370. 1981), Moran (Flora Mesoamericana 1:129, 1995), and Mickel and Smith (2004) cited *Rovirosa* 1084 (PH, NY and K) as a voucher for Chiapas. This specimen was cited by *Rovirosa* (Pterid. Sur Mex. 142. 1909), but has not been located by anyone since *Rovirosa*, thus the record remains unverified. *Rovirosa* collected in the Northern Highlands of Chiapas in a locality named “El Rosario”, between Bochil and Ixtapa. The present record is the first report of *D. palmata* from the Sierra Madre region and confirms the unseen *Rovirosa* report for Chiapas. This species is very rare and grows on rocky slopes in very wet montane, open-canopy forest.

***Selaginella convoluta*** (Arn.) Spring—Mexico, Chiapas, Mpio. Jiquipilas, El Campanario, 2.5 Km N of Ejido Andrés Quintana Roo, (16° 37' 30" N, 93°34'28" W), 650 m, deciduous forest, 16 Jun 2004, *Gómez-Domínguez* 780 (HEM); El Campanario, 2.5 Km N of Ejido Andrés Quintana Roo, 650 m altitude (16° 37' 30" N, 93°34'28" W), deciduous forest, 16 Jun 2004, *Pérez-Farrera* (CHIP); El Campanario, 2.5 Km N of Ejido San Andrés Quintana Roo, 16° 37' 30" N, 93°34'28" W, 650 m, deciduous tropical forest, 16 Jun 2004, *Farrera-Sarmiento* 440 (CHIP). This species is closely related to *S. lepidophylla* (Hook. et Grev.) Spring, but differs by its peltate lateral leaf bases with a single auricle. This record for Chiapas extends the distribution farther south and west in Mexico. Previously, according to Mickel and Smith (2004) the species was known in Mexico only from Yucatan, but it is widespread in the Neotropics (Guatemala, Honduras, Cuba, Hispaniola, Brazil, Bolivia, Paraguay, and Argentina). *Selaginella convoluta* grows on rocks in open deciduous forests, and is very abundant alongside species of *Selaginella*, *Cheilanthes*, *Lygodium*, and *Hemionitis*.

*Asplenium dissectum* Sw.—México, Chiapas, Mpio. Cintalapa, in forest, to 3 km NW of Ejido Rafael Cal y Mayor, La Ventana, 50 km to NW of Cintalapa, (16°58.370' N, 94°01.589' W), 942 m, montane tropical forest, 20 Aug 2005, *Martinez-Meléndez N. 1234* (HEM). This species is a member of sect. *Sphenopteris* and is closely related to *A. serra* Langsd. & Fisch., but differs by its thin blade texture and bilacerate pinnae. This record for Chiapas extends the distribution farther southeast in Mexico. Previously, the species was known in Mexico only from Oaxaca, but it is widespread in the Neotropics (Guatemala, Nicaragua, Costa Rica, Panama, Cuba, Jamaica, Hispaniola, Colombia, Venezuela, Ecuador, and Brazil) (Mickel and Smith, 2004). *Asplenium dissectum* grows terrestrially in dense montane tropical forests.

*Anemia tomentosa* (Savigny) Sw. **var. mexicana** (C. Presl) Mickel—México, Chiapas, Mpio. Cintalapa, to 3 km al Rafael Cal y Mayor 50 km to NW of Cintalapa, (16°55.789' N, 93°59.649' W), 727 m, 20 de aug de 2005, *Martinez-Meléndez N. 1232* (HEM); growing on rocks in *Quercus* forest. This variety is widely distributed in almost all states of Mexico. However it has not been recorded previously from Chiapas or the Yucatan Peninsula. This taxon is distributed in Hispaniola; Colombia, and Venezuela (Mickel and Smith, 2004). In Mexico, its closest relative appears to be *Anemia karwinskyana* (C. Presl) Prantl, from which it is distinguished by its thinner leaf texture and bipinnate-pinnatifid blades. Two other varieties of *A. tomentosa* are distributed in South America (Mickel, Iowa St. J. Sci. 36: 349–482. 1962).

We thank Dr. Christopher Davidson and Sharon Christoph for their financial support for the Floristic inventory of the Triunfo Biosphere Reserve, Chiapas. We also thank Jorge Martinez-Meléndez, Nicolas Méndez-Guzman, and Jeremías López-Chagala for their help in the field and processing of plants. Special thanks to Dr. Alan R. Smith for the verification of specimens and comments on the manuscript.—MIGUEL A. PÉREZ-FARRERA, MA. EVANGELINA LÓPEZ-MOLINA, NAYELY MARTÍNEZ-MELÉNDEZ, and HÉCTOR GÓMEZ-DOMÍNGUEZ, Herbario Eizi Matuda, Facultad de Ciencias Biológicas, Universidad de Ciencias y Artes de Chiapas, Libramiento Norte Poniente 1150, Tuxtla Gutiérrez, Chiapas, México, 29039.